



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/772,255	02/06/2004	Jukka Reunamaki	088245-0193	6861
23524	7590	04/02/2008	EXAMINER	
FOLEY & LARDNER LLP			BARQADLE, YASIN M	
150 EAST GILMAN STREET				
P.O. BOX 1497			ART UNIT	PAPER NUMBER
MADISON, WI 53701-1497			2153	
			MAIL DATE	DELIVERY MODE
			04/02/2008	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/772,255	REUNAMAKI ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	YASIN M. BARQADLE	2153	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 06 February 2004.

2a) This action is **FINAL**.                            2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-12 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-12 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 09/27/2005.

4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_ .

5) Notice of Informal Patent Application

6) Other: \_\_\_\_\_.

**DETAILED ACTION**

- Claims 1-12 are presented for examination.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-3, 7-8, and 10-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Simons USPN. (20060072491).

As per claim 1 and 10, Simons teaches a method of forming a piconet in a wireless communications device (fig. 1 and abstract), the method comprising:

- (a) transmitting a beacon packet across a wireless channel during a first predetermined time interval (¶ 0012 and ¶ 0037-0039) ;
- (b) scanning the wireless channel for a second predetermined time interval, the second predetermined time interval immediately following the first predetermined time interval (¶ 0029 and ¶ 0037. See fig. 4);
- (c) receiving a piconet joining request packet from a remote wireless communications device during the second predetermined time interval (¶ 0077-0029 and ¶ 0044-0045); and
- (d) transmitting a confirmation packet to the remote wireless communications device during a third predetermined time interval, the third predetermined time interval immediately following the second predetermined time interval (¶ 0077-0029 and ¶ 0044-0045 see fig. 4 beacon superfarme).

As per claim 2, Simons teaches the method of claim 1, wherein the piconet joining request includes a request for a role switch (¶ 0026-0032).

As per claim 3, Simons teaches the method of claim 2, further comprising receiving a beacon packet from the remote wireless communications device (¶ 0030 and fig. 1).

As per claims 6 and 11, Simons teaches the method in a wireless communications device (fig. 1 and abstract), comprising:

- (a) transmitting a first beacon packet across a wireless channel during a first predetermined time interval (¶ 0012 and ¶ 0037-0039) ;
- (b) scanning the wireless channel for a second predetermined time interval, the second predetermined time interval immediately following the first predetermined time interval (¶ 0029 and ¶ 0037);
- (c) receiving a request for additional information from a remote wireless communications device during the second predetermined time interval (¶ 0023, and ¶ 0029 and ¶ 0031-0035); and
- (d) transmitting the additional information with a second beacon packet across the wireless channel (¶ 0023, and ¶ 0029 and ¶ 0031-0040)

As per claim 7, Simons teaches the method of claim 6, wherein the additional information includes available services from the wireless communications device (¶ 0023, and ¶ 0029 and ¶ 0031-0040) .

As per claim 8, Simons teaches the method of claim 6, wherein the additional information includes identifiers of devices that are in a piconet with the wireless communications device ¶ 0031-0035).

As per claim 12, Simons teaches a wireless communications device fig. 1 and

abstract, comprising:

means for monitoring a wireless channel for transmissions during a predetermined time interval (¶ 0012-0013 and ¶ 0037-0039);

means for receiving a beacon packet from a remote wireless communications device across the wireless channel during the predetermined time interval (¶ 0023, and ¶ 0029 and ¶ 0031-0035; and

means for, immediately following receipt of the beacon packet, sending a response packet to the remote wireless communications device when the remote wireless communications device is the only device transmitting device during the predetermined time interval (¶ 0026-0029 and ¶ 0047).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-5 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Simons in view of Ho USPN. (20040170217).

Regarding claims 4, although Simons shows substantial features of the claimed invention including using radio frequency channels, Simons does not explicitly show using one or more OFDM symbols.

Nonetheless, this feature is well known in the art and would have been an obvious modification of the system disclosed by Simons, as evidenced by HO USPN. (20040170217).

In analogous art, HO whose invention is about a Wireless personal area networks with rotation of frequency hopping sequences, disclose (using one or more OFDM symbols) “In one embodiment, the devices employ orthogonal frequency division multiplexing (OFDM) modulation to communicate data bits on each of multiple frequencies during a channel symbol period. Thus, the OFDM Channel Symbols are at least N sample periods long, where N is the number of frequency bins used to carry one OFDM symbol data”( ¶ 0023).

Giving the teaching of HO, a person of ordinary skill in the art would have readily recognized the desirability and the advantage of modifying Simons by employing the OFDM Channel Symbols of HO so that each channel symbol carries some amount of digital data and to communicate data bits on each of multiple frequencies during a channel symbol period. In this way persistent interference is avoided and hence improving network performance.

Regarding claims 5 and 9, Ho teaches wherein the wireless channel employs a frequency hopping pattern (Abstract and ¶ 0014).

### **Conclusion**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yasin Barqadle whose telephone number is 571-272-3947. The examiner can normally be reached on 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Burgess can be reached on 571-272-3949. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either private PAIR or public PAIR system. Status information for unpublished applications is available through private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the

Application/Control Number: 10/772,255  
Art Unit: 2153

Page 8

Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit 2153

*/Yasin M Barqadle/  
Examiner, Art Unit 2153*